

THE CLAIMED INVENTION IS:

1. A body panel mounting system for mounting a body panel on a vehicle having a chassis, comprising:
 - a hinge bar;
 - a latch bar;
 - at least one panel support adapted for attaching to the body panel, each panel support being adapted for receiving the hinge bar and the latch bar;
 - at least one support bracket adapted for attaching to the chassis and for receiving the hinge bar; and
 - at least one fastener adapted to couple the latch bar to the chassis.
2. The body panel mounting system of claim 1, wherein each fastener couples the latch bar to one or more fuel tank straps of the vehicle.
3. The body panel mounting system of claim 1, further comprising:
 - at least one first spacer adapted for longitudinally securing the hinge bar to at least one panel support; and
 - at least one second spacer adapted for longitudinally securing the latch bar to at least one panel support.

4. The body panel mounting system of claim 1, wherein each panel support includes at least one first finger section for being compressed about the hinge bar and at least one second finger section for being compressed about the latch bar, the body mounting system further comprising:

at least one first spacer adapted for wedging between the hinge bar and the first finger section of at least one panel support;

at least one second spacer adapted for wedging between the latch bar and the second finger section of at least one panel support;

at least one first clamp adapted for creating a compression fitting between the panel support, the first spacer, and the hinge bar; and

at least one second clamp adapted for creating a compression fitting between the panel support, the second spacer, and the latch bar.

5. The body panel mounting system of claim 4, wherein the first spacer and the second spacer are substantially equivalent, and the hinge bar and the latch bar are substantially equivalent.

6. The body panel mounting system of claim 1, wherein each support bracket includes a wear pad for providing a contact area where the support bracket receives the hinge bar.

7. The body panel mounting system of claim 1, further comprising at least one fastening collar adapted for receiving the latch bar and the fastener, wherein the fastener is adapted to couple the fastening collar to the chassis.

8. The body panel mounting system of claim 1, further comprising at least one fastening collar adapted for receiving the latch bar and the fastener, wherein the fastener is a j-hook bolt adapted to couple the fastening collar to the chassis.

9. The body panel mounting system of claim 1, further comprising:
at least one fastening collar adapted for receiving the latch bar and the fastener,
wherein the fastener couples the fastening collar to the chassis; and
wherein the fastening collar is adapted for providing a wear pad interface between the
latch bar and the chassis.

10. The body panel mounting system of claim 1, further comprising:
at least one fastening collar adapted for receiving the latch bar and the fastener; and
at least one fastening bracket adapted for coupling to the chassis and for receiving the
fastener;
wherein each fastening bracket has a wear pad interface portion adapted for providing
a wear interface between the fastening collar and the chassis.

11. The body panel mounting system of claim 1, wherein each panel support
includes a hinge bar opening adapted for receiving the hinge bar and a latch bar opening
adapted for receiving the latch bar, wherein the hinge bar opening and the latch bar opening
have a generally convex shape cross section.

12. The body panel mounting system of claim 1, wherein the hinge bar is coupled
to at most one panel support and the latch bar is coupled to at most one panel support.

13. A body panel mounting system for mounting a body panel on a vehicle having a chassis, comprising:

a hinge bar;

a latch bar;

at least one panel support having a one or more contoured sections generally conforming to the body panel, a hinge bar opening being of a shape and size such that the hinge bar may slide into and out of the hinge bar opening, and a latch bar opening being of a shape and size such that the latch bar may slide into and out of the latch bar opening;

at least one support bracket having a hook area adapted for receiving the hinge bar, each support bracket being adapted for attaching to the chassis; and

at least one fastening collar having a first opening of a size and shape such that the latch bar may slide into and out of the first opening, each fastening collar being adapted for receiving a fastener; and

the fastener adapted for coupling the fastening collars to the chassis.

14. The body panel mounting system of claim 13, further comprising:

at least one fastening bracket adapted for attaching to a fuel tank strap that is coupled to the chassis and adapted for receiving the fastener.

15. The body panel mounting system of claim 13, further comprising:

at least one fastening bracket adapted for attaching to the chassis and adapted for receiving the fastener, each fastening bracket having a wear pad interface portion adapted for providing a contact surface for the fastening collar.

16. The body panel mounting system of claim 13, wherein each panel support includes one or more first finger sections for being compressed about the hinge bar and includes one or more second finger sections for being compressed about the latch bar, the body panel mounting system further comprising:

at least one first spacer having a generally ring-shaped cross-section with a wedge portion and an outer portion, the wedge portion having an inner size and shape such that the hinge bar may slide into and out of the wedge portion, the wedge portion having a generally increasing outer diameter from a outside edge to a transition from the wedge portion to the outer portion of the first spacer, the outer portion having a inner size and shape such that the hinge bar may slide into and out of the ring-shaped outer portion, wherein the first spacer is adapted for placing the wedge portion between the first finger section of the panel support and the hinge bar; and

at least one second spacer having a generally ring-shaped cross-section with a wedge portion and an outer portion, the wedge portion having an inner size and shape such that the latch bar may slide into and out of the wedge portion, the wedge portion having a generally increasing outer diameter from a outside edge to a transition from the wedge portion to the outer portion of the second spacer, the outer portion having a inner size and shape such that the latch bar may slide into and out of the ring-shaped outer portion, wherein the second spacer is adapted for placing the wedge portion between the second finger section of the panel support and the latch bar.

17. The body panel mounting system of claim 16, wherein the first spacer and the second spacer are substantially equivalent, and the hinge bar and the latch bar are substantially equivalent.

18. The body panel mounting system of claim 13, wherein each panel support includes one or more first finger sections for being compressed about the hinge bar and includes one or more second finger sections for being compressed about the latch bar, the body mounting system further comprising:

at least one first spacer adapted for wedging between the hinge bar and the first finger section;

at least one second spacer adapted for wedging between the latch bar and the second finger section;

at least one first clamp adapted for creating a compression fitting between the first finger section, the first spacer, and the hinge bar; and

at least second clamp adapted for creating a compression fitting between the second finger section, the second spacer, and the latch bar.

19. The body panel mounting system of claim 13, wherein each support bracket includes a wear pad for providing a contact area where the support bracket receives the hinge bar.

20. The body panel mounting system of claim 13, wherein each fastening collar is adapted for providing a wear pad interface between the latch bar and the chassis.

21. The body panel mounting system of claim 13, wherein each fastening collar has a second opening being of a size and shape such that a fastener may slide into and out of the second opening, the body panel mounting system further comprising:

at least one fastening bracket having a first section being adapted for attaching to the chassis and a second section adapted for receiving the fastener.

22. The body panel mounting system of claim 13, wherein the fastener is a j-hook bolt adapted for coupling the fastening collar to the chassis.

23. The body panel mounting system of claim 13, wherein the hinge bar opening and the latch bar opening have a generally convex-shaped cross section.

24. The body panel mounting system of claim 13, wherein the hinge bar is coupled to at most one panel support and the latch bar is coupled to at most one panel support.

25. A body panel mounting system for mounting a first body panel adjacent to a second body panel on a vehicle having a chassis, comprising:

- a hinge bar;

- a latch bar;

- at least one panel support having one or more contoured sections generally conforming to the first body panel and the second body panel, a hinge bar opening being of a size and shape such that the hinge bar may slide into and out of the hinge bar opening, and a latch bar opening being of a size and shape such that the latch bar may slide into and out of the latch bar opening;

- at least one support bracket having a hook area adapted for receiving the hinge bar and being adapted for attaching to the chassis; and

- at least one fastening collar having a first opening of a size and shape such that the latch bar may slide into and out of the first opening, each fastening collar being adapted for receiving a fastener; and

- the fastener being configured for coupling the fastening collar to the chassis,

- wherein the hinge bar is of sufficient length to pass through at least one panel support coupled to the first body panel and at least one panel support coupled to the second body panel, and the latch bar is of sufficient length to pass through at least one panel support coupled to the first body panel and at least one panel support coupled to the second body panel.

26. The body panel mounting system of claim 25, wherein each panel support has a strap hook, the body panel mounting system further comprising:

a strap configured for coupling the strap hook of at least one panel support attached to the first body panel to the strap hook of at least one panel support attached to the second body panel.

27. The body panel mounting system of claim 25, further comprising:

at least one fastening bracket adapted for attaching to the chassis and for receiving the fastener.

28. The body panel mounting system of claim 25, wherein each panel support includes one or more first finger sections for being compressed about the hinge bar and includes one or more second finger sections for being compressed about the latch bar, the body mounting system further comprising:

at least one first spacer having a generally ring-shaped cross-section with a wedge portion and an outer portion, the wedge portion having an inner diameter such that the hinge bar or the latch bar may slide into and out of the wedge portion, the wedge portion having a generally increasing outer diameter from an outside edge to a transition from the wedge portion to the outer portion, the outer portion having an inner diameter such that the hinge bar or the latch bar may slide into and out of the outer portion, wherein the first spacer is adapted for placing the wedge portion between the first finger section of the panel support and the hinge bar; and

at least one second spacer having a generally ring-shaped cross-section with a wedge portion and an outer portion, the wedge portion having an inner diameter such that the hinge bar or the latch bar may slide into and out of the wedge portion, the wedge portion having a generally increasing outer diameter from an outside edge to a transition from the wedge portion to the outer portion, the outer portion having an inner diameter such that the hinge bar or the latch bar may slide into and out of the outer portion, wherein the second spacer is adapted for placing the wedge portion between the second finger section of the panel support and the latch bar.

29. The body panel mounting system of claim 28, wherein the first spacer and the second spacer are substantially equivalent, and the hinge bar and the latch bar are substantially equivalent.

30. The body panel mounting system of claim 25, wherein each panel support includes one or more first finger sections for being compressed about the hinge bar and includes one or more second finger sections for being compressed about the latch bar, the body mounting system further comprising:

at least one first spacer adapted for wedging between the hinge bar and the first finger sections

at least one second spacer adapted for wedging between the latch bar and the second finger sections;

at least one first clamp adapted for creating a compression fitting between the first finger sections, the first spacer, and the hinge bar; and

at least one second clamp adapted for creating a compression fitting between the second finger sections, the second spacer, and the latch bar.

31. The body panel mounting system of claim 25, wherein each support bracket includes a wear pad for providing a contact area where the support bracket receives the hinge bar.

32. The body panel mounting system of claim 25, wherein each fastening collar is adapted for providing a wear pad interface between the latch bar and the chassis.

33. The body panel mounting system of claim 25, wherein each fastening collar has a second opening of a size and shape such that a fastener may slide into and out of the second opening, the body panel mounting system further comprising:

at least one fastening bracket having a first section adapted for attaching to the chassis and a second section having an opening of a size and shape such that the fastener may slide into and out of the opening.

34. The body panel mounting system of claim 25, wherein the fastener is a j-hook bolt adapted for coupling the fastening collar to the chassis.

35. The body panel mounting system of claim 25, wherein the hinge bar opening and the latch bar opening have a generally convex-shaped cross section.

36. The body panel mounting system of claim 25, wherein the hinge bar is coupled to at most one panel support and the latch bar is coupled to at most one panel support.

37. A method of installing a body panel that is attached to a vehicle chassis by a body panel mounting system, said body panel mounting system including a hinge bar, a latch bar, at least one fastening collar, at least one support bracket, and at least one j-hook bolt, the method comprising the steps of:

lowering the body panel such that the hinge bar rests upon the support bracket, the hinge bar being attached to the body panel and the support bracket being coupled to the chassis; and

fastening the j-hook bolt to the chassis, the j-hook bolt being coupled to the fastening collar, the fastening collar being coupled to the latch bar, and the latch bar being coupled to the body panel.

38. The method of claim 37, further comprising the step of installing a strap that couples a first panel support coupled to the body panel to a second panel support coupled to an adjacent body panel.

39. A method of removing a body panel that is attached to a vehicle chassis by a body panel mounting system, said body panel mounting system including a hinge bar, a latch bar, at least one fastening collar, at least one support bracket, and at least one j-hook bolt, the method comprising the steps of:

unfastening the j-hook bolt from the chassis, the j-hook bolt coupling the fastening collar to the chassis, the fastening collar being coupled to the latch bar; and

raising the body panel, the body panel being supported by the hinge bar resting upon the support bracket, the support bracket being coupled to the chassis.

40. The method of claim 39, further comprising the step of removing a strap that couples a first panel support coupled to the body panel to a second panel support coupled to an adjacent body panel.